

Metal Industry Indicators

Composite Indexes of Leading and Coincident Indicators of Selected Metal Industries for March and April—Summary Report

May 21, 2004

The **primary metals leading index** decreased 0.3% in April to 142.6 from a revised 143.0 in March, and its 6-month smoothed growth rate fell to 10.6% from a revised 13.2% in March. The 6-month smoothed growth rate is a compound annual rate that measures the near-term trend. Usually a growth rate above +1.0% signals an increase in metals activity, and a growth rate below -1.0% indicates a downturn in activity. This dip in the leading index and the resulting decline in its growth rate, at this point, suggest no immediate threat to the current expansion in the primary metals industry. The U.S. and global economies are still positioned for further growth and demand for metals remains moderately high.

Two of the four indicators that were available for the April index calculation decreased, and two increased. The first decrease in nearly a year in the JOC-ECRI metals price index growth rate contributed -1.4 percentage points to the overall decline in the leading index. The decrease in the PMI was small; its contribution rounded to zero. The PMI, a gauge of domestic manufacturing activity, remains relatively high. The S&P stock price index for construction and farm machinery companies and for industrial machinery companies rebounded in April, contributing 0.9 percentage points to the leading index. A slightly longer average workweek in primary metals establishments contributed 0.2 percentage points. The April leading index should be considered preliminary because only four of its eight indicators were available, and the leading index will likely be revised when the other components are added next month.

Metals are key inputs in durable goods manufacturing and construction, which account for almost a quarter of gross domestic product final sales. Therefore, the primary metals leading index also gives early signals of major changes in activity for the overall U.S. economy (Chart 8).

The primary aluminum and the aluminum mill products indexes are suspended because of discontinued availability of industry-specific historical data. The USGS will continue to calculate the steel and copper composite indexes. These indexes are available through March. The copper leading index rose 1.2% for the second month in a row, with five of its six indicators increasing. The majority of that increase came from a longer workweek in copper rolling, drawing, extruding, and alloying establishments and the S&P

stock price index for building materials. The copper leading index growth rate has been signaling an increase in U.S. copper activity since last summer. Activity has begun to pickup, as reflected by the copper coincident growth rate. The steel leading index increased 1.1 % in March. All but one of its indicators increased with only a shorter average workweek in steel mills making a negative contribution to the overall increase in the leading index. Its growth rate is still high enough to suggest, at least, modest activity growth in the domestic steel industry over the next few months.

The **metals price leading index** dropped 1.6% in March, the latest month for which it is available, to 113.4 from a revised 115.2 in February, and its 6-month smoothed growth rate registered at zero from a revised 3.8% in February. Two of its three available indicators decreased. The growth rate of the trade-weighted average exchange value of other major currencies against the U.S. dollar made a -1.4-percentage-point contribution. The yield spread between the U.S. 10-year Treasury Note and the federal funds rate decreased, making a -0.3-percentage-point contribution. However, the growth rate of the inflation-adjusted value of new orders for U.S. nonferrous metal products made a small positive contribution to the leading index, 0.1 percentage point. The growth rate of the ECRI 18-Country Long Leading Index eased back in February, the latest month for which it is available. However, it is still in the range that suggests continued growth in global economies. The ECRI 18-Country Long Leading Index gauges future economic activity for major industrialized countries and signals changes in the growth of economic activity about 5 months in advance. The metals price leading index signals major changes in the growth rate of nonferrous metal prices an average of 8 months in advance.

The growth rate of the value of U.S. nonferrous metals products inventories, which is an indicator of supply, continues to fall and rests at -8.7% for the last two months. This indicator usually moves inversely with the price of metals. Tight supplies and relatively high demand for metals could keep metals price growth at a modest pace in the near future.

The percent changes from February to March for the **metal industry coincident indexes**, which measure current economic activity, are shown below. March is the latest month for which these indexes are available.

Primary Metals	1.1 %
Steel	0.8%
Copper	0.6%

Tables 1, 3, 5, and 7 identify the indicators and, for the industry indexes, show the contributions of each indicator to its respective index.

The *Metal Industry Indicators* report is produced at the U.S. Geological Survey by the Minerals Information Team. For more information about these indexes and the *Metal Industry Indicators* monthly report, contact Gail James (703-648-4915), (e-mail, gjames@usgs.gov) at the U.S. Geological Survey.

The *Metal Industry Indicators* summary report with indexes for April and May is scheduled for release on the World Wide Web at 10:00 a.m. EDT, Friday, June 18.

Table 1.
Leading Index of Metal Prices and Growth Rates of the Nonferrous Metals Price Index,
Inventories of Nonferrous Metal Products, and Selected Metal Prices

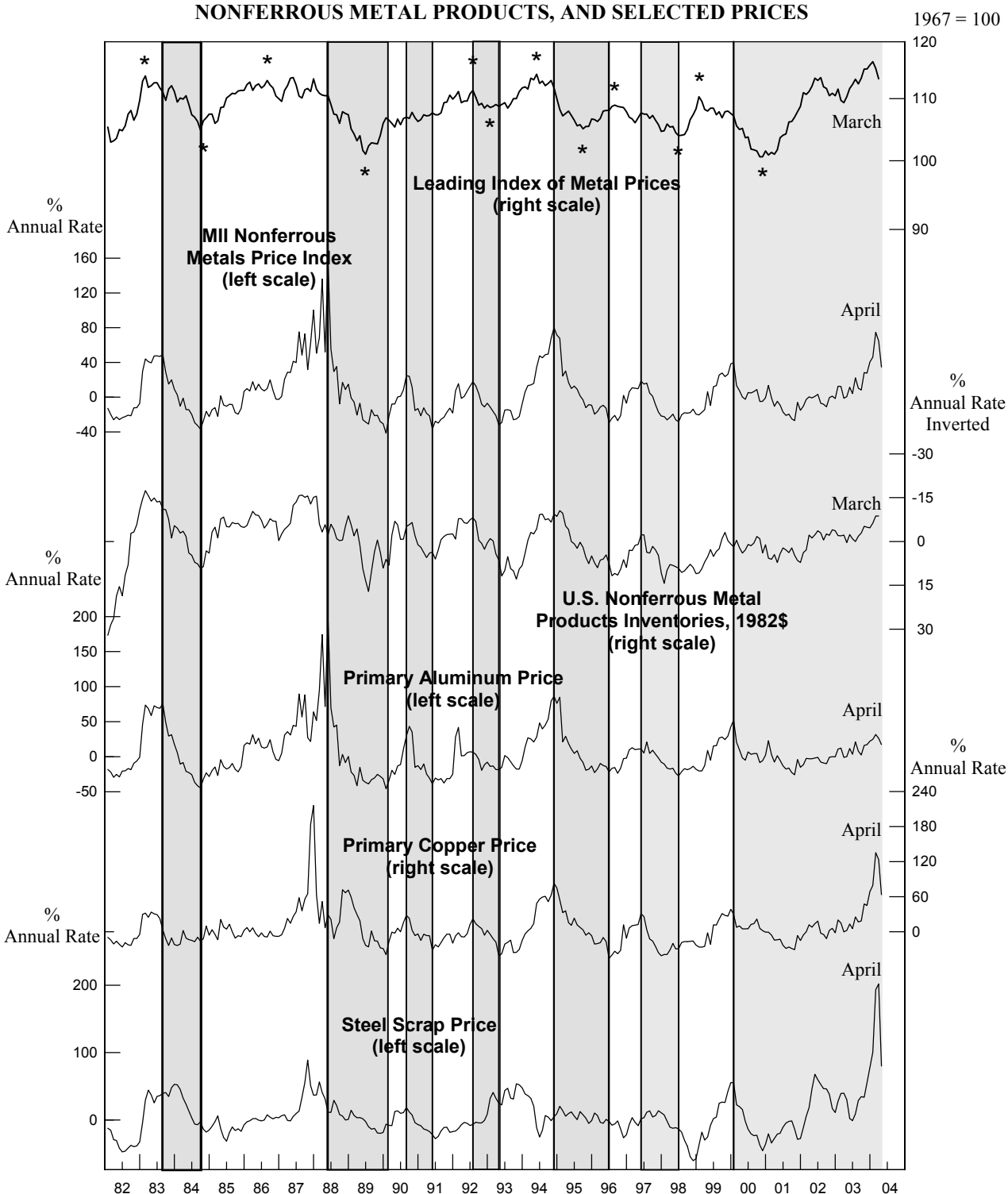
	Leading Index of Metal Prices (1967=100)	Six-Month Smoothed Growth Rates				
		MII Nonferrous Metals Price Index	U.S. Nonferrous Metal Products Inventories (1982\$)	Primary Aluminum	Primary Copper	Steel Scrap
2003						
March	109.3	-1.1	-2.2	-1.0	-0.3	40.0
April	110.3r	0.7	0.4	0.1	2.3	30.1
May	111.7	11.5	-2.4	11.6	13.4	2.3
June	112.4	4.2	-0.9	3.3	5.6	-0.8
July	113.3	22.4	0.0	21.2	25.2	9.1
August	112.5	10.4	-1.8	7.9	16.8	29.1
September	113.5	8.2	-2.9	2.5	18.4	34.7
October	115.1r	28.2	-5.2	15.9	47.5	33.8
November	115.1r	27.7	-4.9r	17.2	44.8	55.2
December	115.8r	40.4	-4.7	22.2	68.6	77.9
2004						
January	116.4r	46.1	-6.3r	24.7	79.3	100.7
February	115.2r	74.8	-8.7r	31.7	135.4	193.5
March	113.4	64.7	-8.7	26.3	123.4	201.9
April	NA	34.7	NA	17.3	63.4	80.1

NA: Not available **r:** Revised

Note: The components of the Leading Index of Metal Prices are the spread between the U.S. 10-year Treasury Note and the federal funds rate, and the 6-month smoothed growth rates of the deflated value of new orders for nonferrous metal products, the Economic Cycle Research Institute's 18-Country Long Leading Index, and the reciprocal of the trade-weighted average exchange value of the U.S. dollar against other major currencies. The Metal Industry Indicators (MII) Nonferrous Metals Price Index measures changes in end-of-the-month prices for primary aluminum, copper, lead, and zinc traded on the London Metal Exchange (LME). The steel scrap price used is the price of No. 1 heavy melting. Inventories consist of the deflated value of finished goods, work in progress, and raw materials for U.S.-produced nonferrous metal products (NAICS 3313, 3314, & 335929). Six-month smoothed growth rates are based on the ratio of the current month's index or price to its average over the preceding 12 months, expressed at a compound annual rate.

Sources: U.S. Geological Survey (USGS); American Metal Market (AMM); the London Metal Exchange (LME); U.S. Census Bureau; the Economic Cycle Research Institute, Inc. (ECRI); and Federal Reserve Board.

**CHART 1.
LEADING INDEX OF METAL PRICES AND GROWTH RATES
OF NONFERROUS METALS PRICE INDEX, INVENTORIES OF
NONFERROUS METAL PRODUCTS, AND SELECTED PRICES**



Shaded areas are downturns in the nonferrous metals price index growth rate. Asterisks (*) are peaks and troughs in the economic activity reflected by the leading index of metal prices. Scale for nonferrous metal products inventories is inverted.

Table 2.
The Primary Metals Industry Indexes and Growth Rates

	Leading Index		Coincident Index	
	(1977 = 100)	Growth Rate	(1977 = 100)	Growth Rate
2003				
May	130.0	1.8	95.8	-5.1
June	130.7	2.8	95.0	-6.0
July	131.6	4.1	95.0	-5.3
August	134.1	7.4	94.7	-5.3
September	133.0	5.1	95.1	-3.8
October	135.2	7.5	95.6	-2.3
November	136.5	8.5	96.5	0.1
December	138.1	10.0r	97.5	2.4r
2004				
January	139.4r	10.7r	97.8	3.0r
February	141.1r	11.9r	97.7r	2.9r
March	143.0r	13.2r	98.8	5.1
April	142.6	10.6	NA	NA

NA: Not available **r:** Revised

Note: Growth rates are expressed as compound annual rates based on the ratio of the current month's index to the average index during the preceding 12 months.

Table 3.
The Contribution of Each Primary Metals Index Component to the Percent Change in the Index from the Previous Month

Leading Index	March	April
1. Average weekly hours, primary metals (NAICS 331)	0.0	0.2
2. Weighted S&P stock price index, machinery, construction and farm and industrial (December 30, 1994 = 100)	-0.1r	0.9
3. Ratio of price to unit labor cost (NAICS 331)	0.4	NA
4. JOC-ECRI metals price index growth rate	0.1r	-1.4
5. New orders, primary metal products, (NAICS 331 & 335929) 1982\$	0.3	NA
6. Index of new private housing units authorized by permit	0.2	NA
7. Growth rate of U.S. M2 money supply, 2000\$	0.2	NA
8. PMI	0.1r	0.0
Trend adjustment	0.0	0.0
Percent change (except for rounding differences)	1.2r	-0.3
Coincident Index	February	March
1. Industrial production index, primary metals (NAICS 331)	0.2r	0.0
2. Total employee hours, primary metals (NAICS 331)	0.0r	-0.1
3. Value of shipments, primary metals products, (NAICS 331 & 335929) 1982\$	-0.3r	1.1
Trend adjustment	0.1	0.1
Percent change (except for rounding differences)	0.0r	1.1

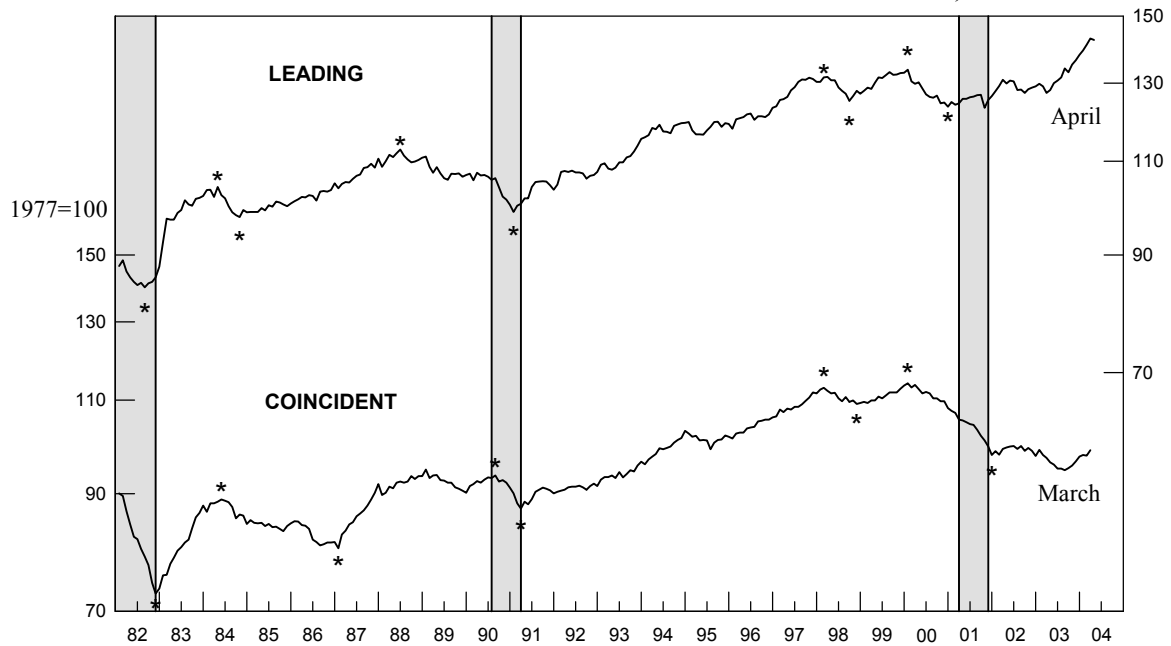
Sources: Leading: 1, Bureau of Labor Statistics; 2, Standard & Poor's and U.S. Geological Survey; 3, U.S. Geological Survey; 4, Journal of Commerce and Economic Cycle Research Institute, Inc.; 5, U.S. Census Bureau and U.S. Geological Survey; 6, U.S. Census Bureau and U.S. Geological Survey; 7, Federal Reserve Board, Conference Board, and U.S. Geological Survey; and 8, Institute for Supply Management. Coincident: 1, Federal Reserve Board; 2, Bureau of Labor Statistics and U.S. Geological Survey; 3, U.S. Census Bureau and U.S. Geological Survey. All series are seasonally adjusted, except 2, 3, and 4 of the leading index.

NA: Not available **r:** Revised

Note: A component's contribution, shown in Tables 3, 5, 7, and 9, measures its effect, in percentage points, on the percent change in the index. Each month, the sum of the contributions plus the trend adjustment equals (except for rounding differences) the index's percent change from the previous month.

CHART 2.

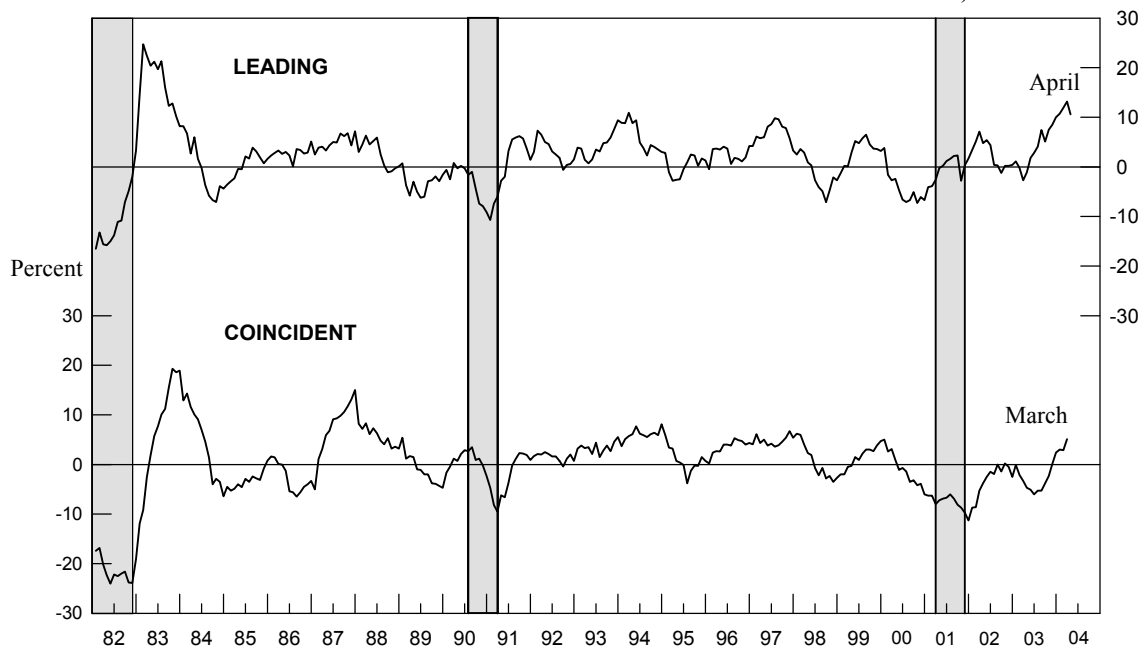
PRIMARY METALS: LEADING AND COINCIDENT INDEXES, 1982-2004 1977=100



Shaded areas are business cycle recessions. Asterisks (*) signify peaks (the end of an expansion) and troughs (the end of a downturn) in the economic activity reflected by the indexes.

CHART 3.

PRIMARY METALS: LEADING AND COINCIDENT GROWTH RATES, 1982-2004 Percent



Shaded areas are business cycle recessions.

The growth rates are expressed as compound annual rates based on the ratio of the current month's index to its average level during the preceding 12 months.

Table 4.
The Steel Industry Indexes and Growth Rates

	Leading Index		Coincident Index	
	(1977 = 100)	Growth Rate	(1977 = 100)	Growth Rate
2003				
April	109.0	-2.6	93.4	-2.3
May	111.1	1.2	92.3	-4.2
June	110.9	1.1	91.0	-6.3
July	111.1	1.5	90.7	-6.4
August	112.7	4.4	90.1	-7.1
September	111.7	2.5	91.0	-4.4
October	112.1	2.8	90.9	-4.0
November	113.6	5.1	91.5	-2.1
December	114.7	6.5	93.4	2.4
2004				
January	113.7r	4.4r	93.3	2.3
February	113.5	3.5	91.8	-0.4r
March	114.8	4.9	92.5	1.2

r: Revised

Note: Growth rates are expressed as compound annual rates based on the ratio of the current month's index to the average index during the preceding 12 months.

Table 5.
The Contribution of Each Steel Index Component to the Percent Change in the Index from the Previous Month

Leading Index	February	March
1. Average weekly hours, iron and steel mills (NAICS 3311 & 3312)	-0.4	-0.1
2. New orders, iron and steel mills (NAICS 3311 & 3312), 1982\$	-0.1r	0.4
3. Shipments of household appliances, 1982\$	0.0	0.0
4. S&P stock price index, steel companies	0.1	0.2
5. Retail sales of U.S. passenger cars and light trucks (units)	0.0	0.1
6. Growth rate of the price of steel scrap (#1 heavy melting, \$/ton)	0.0	0.0
7. Index of new private housing units authorized by permit	-0.1	0.2
8. Growth rate of U.S. M2 money supply, 2000\$	0.4	0.2
9. PMI	-0.2	0.1
Trend adjustment	0.0	0.0
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Percent change (except for rounding differences)	-0.3r	1.1
Coincident Index		
1. Industrial production index, iron and steel products (NAICS 3311 & 3312)	-0.2	-0.1
2. Value of shipments, iron and steel mills (NAICS 3311 & 3312), 1982\$	-0.9	1.0
3. Total employee hours, iron and steel mills (NAICS 3311 & 3312)	-0.7	-0.3
Trend adjustment	0.1	0.1
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Percent change (except for rounding differences)	-1.7	0.7

Sources: Leading: 1, Bureau of Labor Statistics; 2, U.S. Census Bureau and U.S. Geological Survey; 3, U.S. Census Bureau and U.S. Geological Survey; 4, Standard & Poor's; 5, U.S. Bureau of Economic Analysis and American Automobile Manufacturers Association; 6, Journal of Commerce and U.S. Geological Survey; 7, U.S. Census Bureau and U.S. Geological Survey; 8, Federal Reserve Board, Conference Board, and U.S. Geological Survey; and 9, Institute for Supply Management. Coincident: 1, Federal Reserve Board; 2, U.S. Census Bureau and U.S. Geological Survey; 3, Bureau of Labor Statistics and U.S. Geological Survey. All series are seasonally adjusted, except 4 and 6 of the leading index.

r: Revised

CHART 4.
STEEL: LEADING AND COINCIDENT INDEXES, 1982-2004

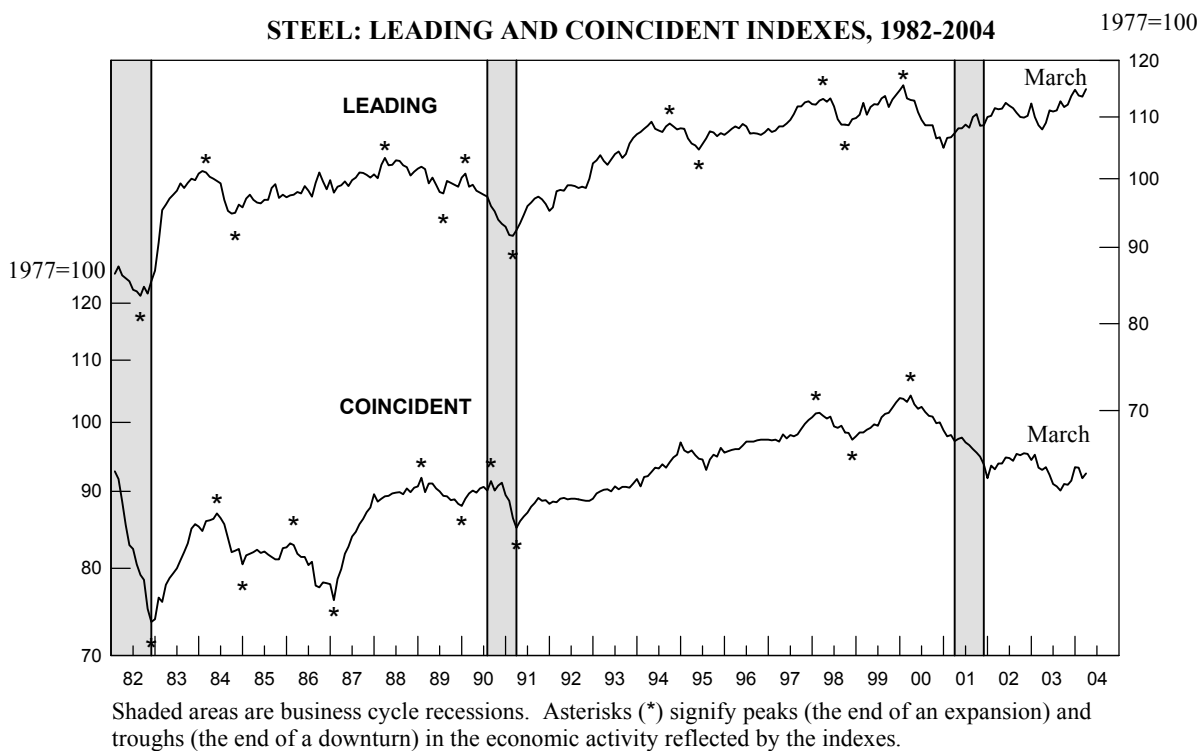


CHART 5.
STEEL: LEADING AND COINCIDENT GROWTH RATES, 1982-2004

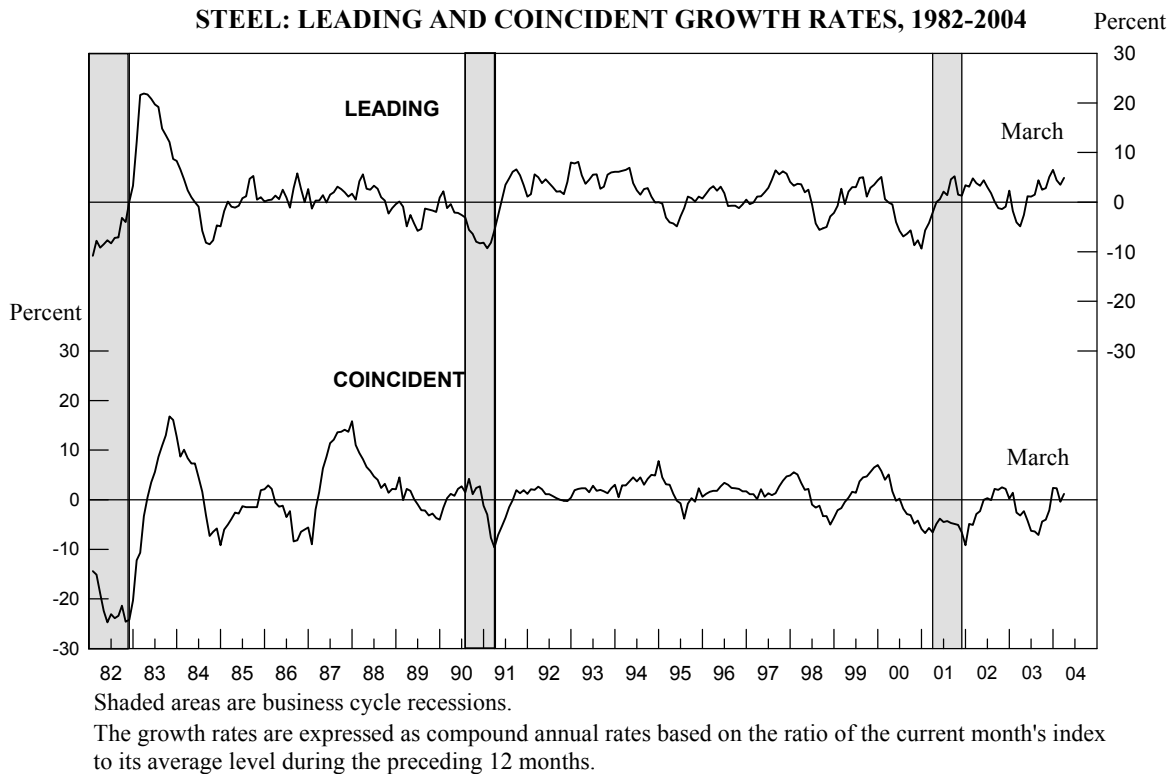


Table 6.
The Copper Industry Indexes and Growth Rates

	Leading Index		Coincident Index	
	(1977 = 100)	Growth Rate	(1977 = 100)	Growth Rate
2003				
April	115.6	-3.6	104.9	-7.5
May	117.0	-0.7	106.1	-4.8
June	117.7	0.8	107.1	-2.4
July	119.4	3.9	108.7	0.9
August	119.7	4.4	107.3	-1.4
September	120.2	4.9	107.5	-0.6
October	122.3	7.8r	106.2	-2.6
November	122.6	7.5r	106.5	-1.8
December	124.6	9.9	107.8r	0.9r
2004				
January	125.0r	9.5r	107.7r	0.8r
February	126.5r	10.9r	107.6r	0.8r
March	128.0	11.9	108.2	2.0

r: Revised

Note: Growth rates are expressed as compound annual rates based on the ratio of the current month's index to the average index during the preceding 12 months.

Table 7.
The Contribution of Each Copper Index Component to the Percent Change in the Index from the Previous Month

Leading Index	February	March
1. Average weekly overtime hours, copper rolling, drawing, extruding, and alloying (NAICS 33142)	0.1r	0.4
2. New orders, nonferrous metal products, (NAICS 3313, 3314, & 335929) 1982\$	0.0	0.1
3. S&P stock price index, building products companies	0.1	0.4
4. LME spot price of primary copper	1.0	0.2
5. Index of new private housing units authorized by permit	-0.1	0.2
6. Spread between the U.S. 10-year Treasury Note and the federal funds rate	-0.1	-0.2
Trend adjustment	0.0	0.0
Percent change (except for rounding differences)	1.0r	1.1
Coincident Index		
1. Industrial production index, primary smelting and refining of copper (NAICS 331411)	-0.2	0.1
2. Total employee hours, copper rolling, drawing, extruding, and alloying (NAICS 33142)	0.0	0.4
3. Copper refiners' shipments (short tons)	0.0	NA
Trend adjustment	0.1	0.1
Percent change (except for rounding differences)	-0.1	0.6

Sources: Leading: 1, Bureau of Labor Statistics; 2, U.S. Census Bureau and U.S. Geological Survey; 3, Standard & Poor's; 4, London Metal Exchange; 5, U.S. Census Bureau and U.S. Geological Survey; 6, Federal Reserve Board and U.S. Geological Survey. Coincident: 1, Federal Reserve Board; 2, Bureau of Labor Statistics; 3, American Bureau of Metal Statistics, Inc. and U.S. Geological Survey. All series are seasonally adjusted, except 3, 4, and 6 of the leading index.

r: Revised

CHART 6.
COPPER: LEADING AND COINCIDENT INDEXES, 1982-2004

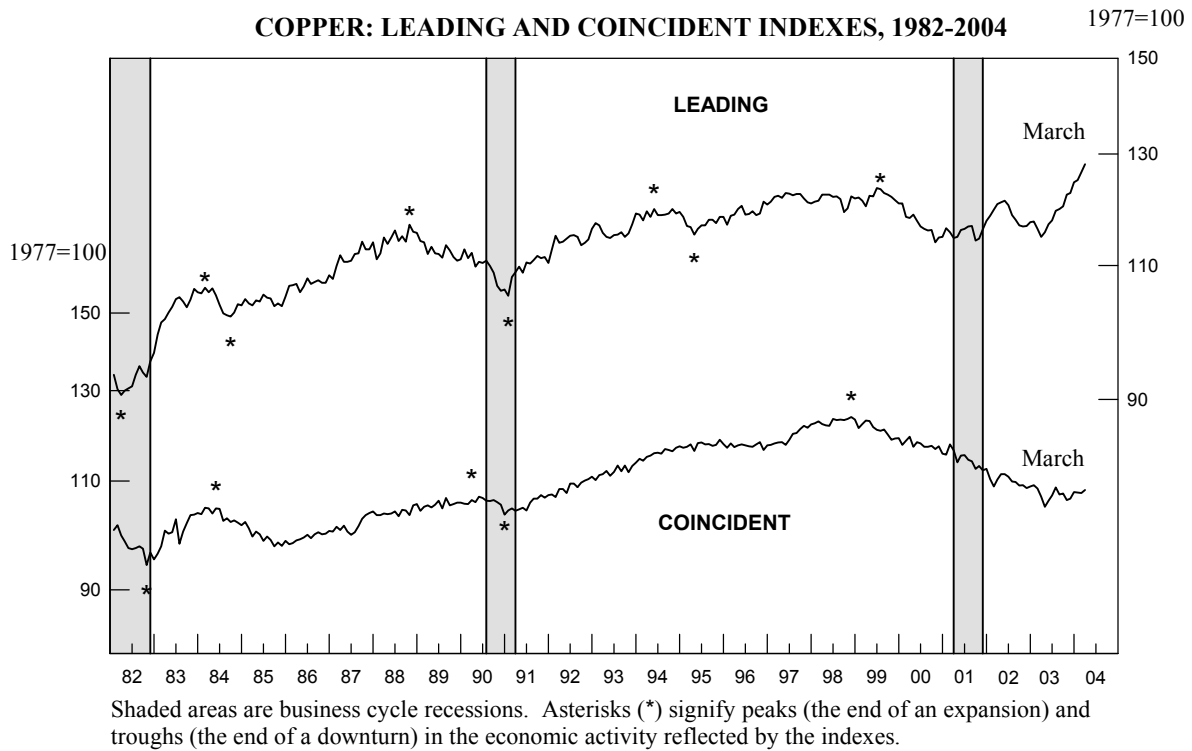


CHART 7.
COPPER: LEADING AND COINCIDENT GROWTH RATES, 1982-2004

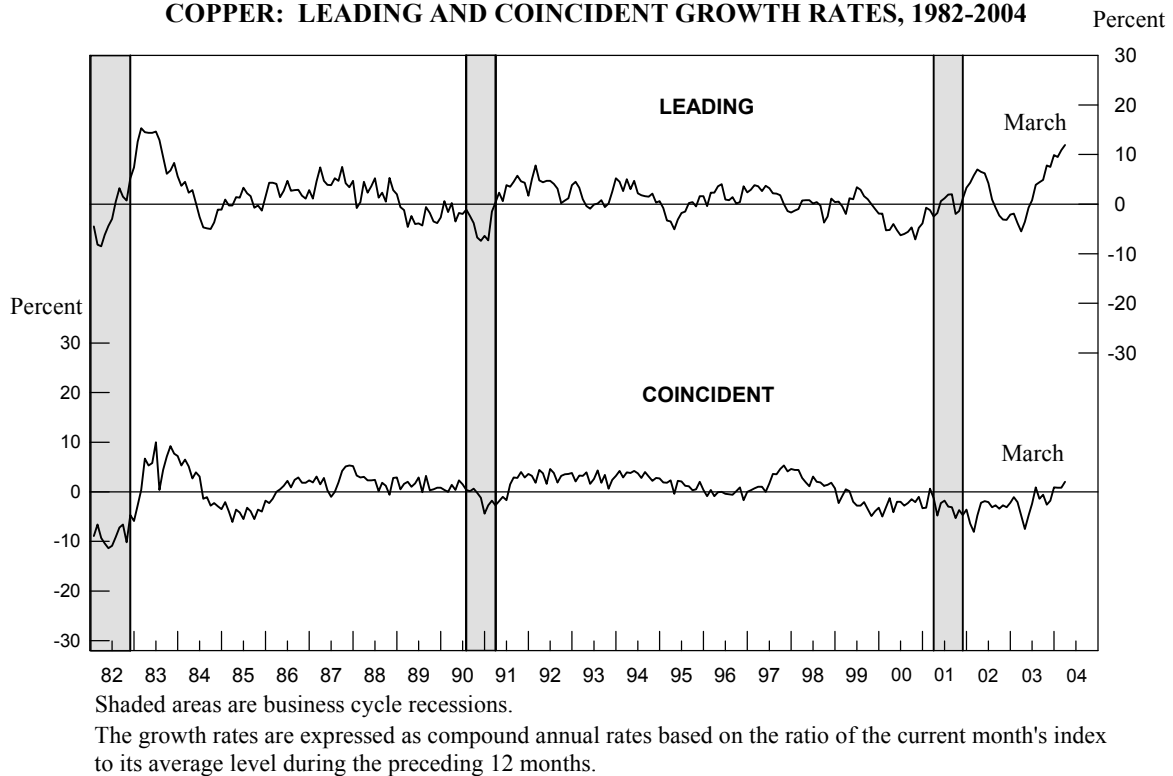
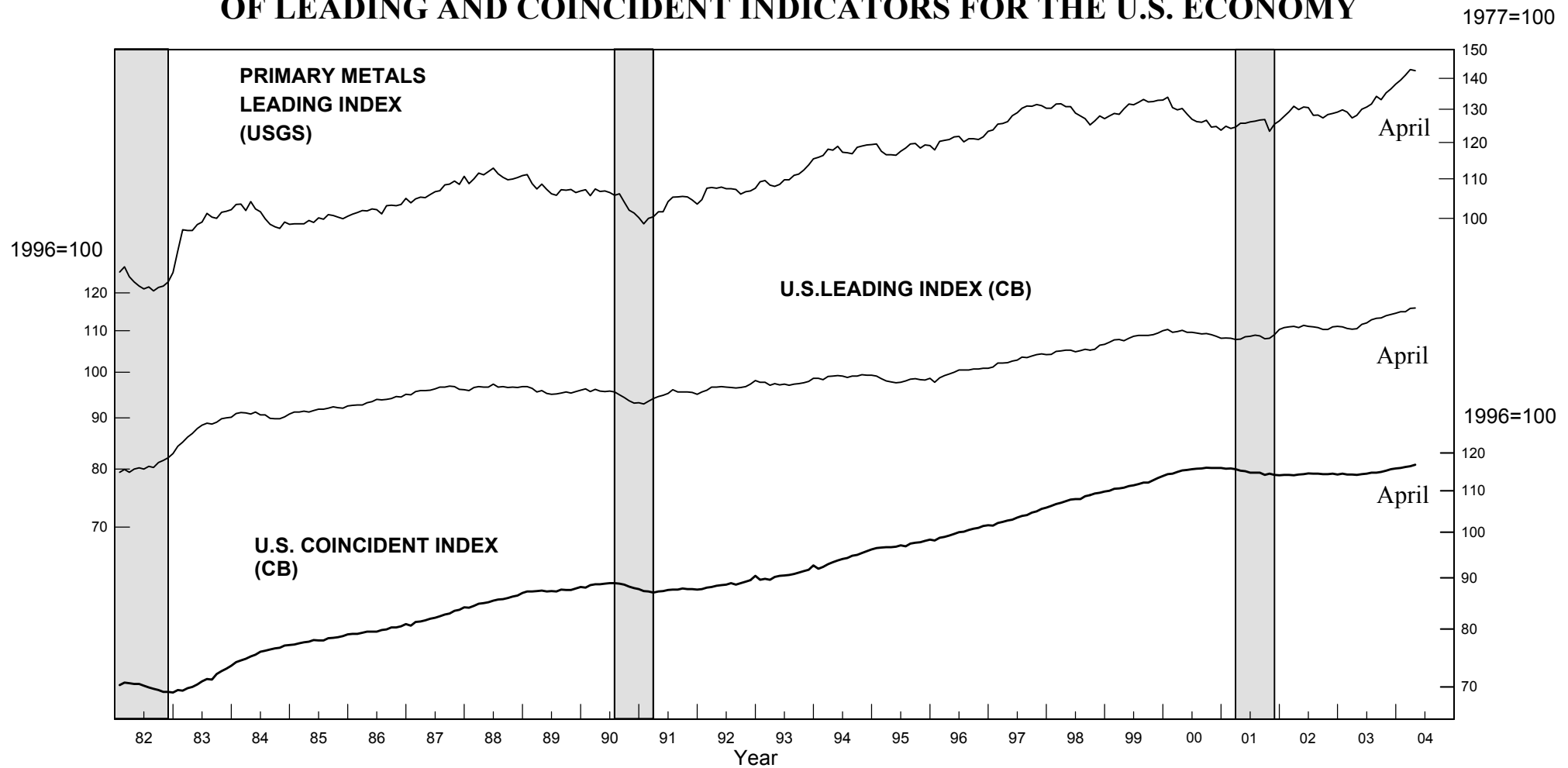


Chart 8.

**PRIMARY METALS LEADING INDEX AND COMPOSITE INDEXES
OF LEADING AND COINCIDENT INDICATORS FOR THE U.S. ECONOMY**



Shaded areas are business cycle recessions.

Sources: U.S. Geological Survey (USGS) and Conference Board (CB).

May 2004